OREGON VESPER SPARROW (*Pooecetes gramineus affinis*)

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Criteria Scores

Breeding

Population Trend	Range Trend	Population Size	Range Size	Endemism	Population Concentration	Threats
0	0	10	10	0	10	15

Wintering

Population Trend	Range Trend	Population Size	Range Size	Endemism	Population Concentration	Threats
10	5	7.5	5	7.5	0	15

Special Concern Priority

Currently considered a Bird Species of Special Concern in two seasonal roles: winter (Priority 2) and breeding (Priority 3). Not considered previously by Remsen (1978) or CDFG (1992). Also, considered a candidate for state listing as threatened or endangered by the Washington Department of Fish and Wildlife, a Sensitive Species (Critical) by the Oregon Department of Fish and Wildlife, and a Species of Concern by the U. S. Fish and Wildlife Service.

Breeding Bird Survey Statistics for California

Data inadequate for trend assessment (Sauer et al. 2000) but Peterjohn and Sauer (1999)–noting differences across the continent–mapped mostly declining trends across western Oregon.

General Range and Abundance

The vesper sparrow breeds from central British Columbia across southern Canada to Nova Scotia and south to northern and eastern California and across the southern and central United States to Tennessee and North Carolina; it winters from central California across the central United States to Pennsylvania and Connecticut and south to Baja California Sur, southern Mexico, and central Florida (AOU 1998). Four subspecies are currently recognized: the Oregon vesper sparrow, Great

Basin or western vesper sparrow (*P. g. confinis*), southwestern vesper sparrow (*P. g. altus*), and nominate eastern vesper sparrow (Phillips et al. 1964, Browning 1990, Pyle 1997).

The Oregon vesper sparrow breeds in the lower valleys and plains west of the Cascade Range in western Washington, western Oregon, and extreme northwestern California (AOU 1957, 1998; King 1968). Highest densities apparently occur in Oregon's Willamette (at least formerly) and Rogue Valleys (King 1968, Gilligan et al. 1994). The Oregon vesper sparrow is almost restricted to California in winter, but it's winter range overlaps broadly with that of the Great Basin vesper sparrow and thus is not well known. (The few winter records of vesper sparrows in Oregon most likely pertain to Great Basin vesper sparrows.) Records are generally restricted to the lower valleys and plains west of the mountains from central California southward (AOU 1957, King 1968). Four specimens were collected at Santo Domingo, northwestern Baja California in 1925 (Grinnell 1928). Highest densities apparently occur in central and southwestern (at least formerly) California (Willett 1933, Grinnell and Miller 1944).

Seasonal Status in California

Occurs on the breeding grounds from early April to September (Erickson et al. 1997) and on the wintering grounds from September to April (Willett 1933). Migration apparently occurs in April and August – October (Grinnell and Miller 1944).

Historical Range and Abundance in California

Breeding. Not known to breed in California until 1976 (McCaskie et al. 1979).

Winter. Grinnell and Miller (1944) listed definite records from Fulton, Sonoma County; Oakland, Alameda County; and Lagrange, Stanislaus County south to El Cajon, San Diego County. Vesper sparrows they considered probably this subspecies were reported from Gridley, Butte County and 30 miles east of Stockton, San Joaquin County. Abundance was "rated variously as 'rare,' 'fairly common,' or even 'common,' but total numbers evidently small, especially to

northward in winter" (Grinnell and Miller 1944). The subspecies was considered common in southwestern California late in the 19th and early in the 20th Centuries (Grinnell 1898, Willett 1933).

Status confounded by overlap with the Great Basin vesper sparrow, which was said to winter in the deserts and in coastal areas north to Santa Barbara County, and "more sparingly in San Joaquin Valley and coastal valleys north at least to Fresno district and San Benito County" (Grinnell and Miller 1944). Unchecked data from 251 specimens identified to subspecies (housed at six museums listed in the Acknowledgements), collected in cismontane California and northwestern Baja California primarily early in the 20th Century, were tallied in an effort to better understand the winter ranges of these two subspecies. The birds involved were assumed to be on their wintering grounds, but some migrants may be included. Likewise, the subspecific identification of all specimens is not guaranteed. Oregon vesper sparrow localities range from Sonoma and Amador Counties southward, Great Basin vesper sparrow localities range from Solano and Stanislaus Counties southward. Oregon vesper sparrows represent 78% of 18 specimens taken north of Kern County but only one of six Kern County specimens. South of the Tehachapi Mountains, Oregon vesper sparrows represent 21% of 214 California specimens (30% in Los Angeles Co., 11% in Riverside Co., and 9% in San Diego Co.). Four of 13 Baja California specimens were identified as *affinis*. Based on this review, the Great Basin vesper sparrow may have been the predominate subspecies in these areas of the Californias from Kern County southward, with the reverse true to the north.

Recent Range and Abundance in California

Breeding. No meaningful change in range or status has been noted since the subspecies was first found in coastal Del Norte County in the mid 1970s. The known breeding range is limited to the coastal dune system from Pt. Saint George to the Smith River mouth. Gary and Lauren Lester estimated 12 territorial males present 15-17 June 1988 (*North American Birds* files) and Harris (1996) estimated a population of $\pm$10 pairs but no survey has ever been conducted. Based on his

experience in the area, A. D. Barron (pers. comm., 29 January 2002) estimated the population is at least 15-20 pairs. Occasional sightings from agricultural areas in the Smith River Bottoms (e.g., 4 May 1982, 10 June 1982, R. A. Erickson unpubl. data) and elsewhere (1-2 singing males at Lanphere Dunes, Humboldt County, 29 April – 30 May 1986, *North American Birds* files), but no evidence of nesting.

Winter. Very little has been written specifically about the status of this subspecies in California since 1944. Although the general outline of its winter range may be unchanged, the number of birds wintering in California must be greatly reduced based on the available evidence. (Anecdotal evidence in the *North American Birds* files for northern California may support this.) An estimated 99% loss of grassland in California (Vickery et al. 1999) includes areas such as the Los Angeles Basin, where the subspecies was once considered common. On the breeding grounds, an estimated loss of 99.5% of native prairie in the Willamette Valley (Vickery et al. 1999) overstates the loss of vesper sparrow habitat since they do nest in pastures and other human-created habitats. But whereas the subspecies was once considered abundant in the Willamette Valley (Gabrielson and Jewett 1940), it is now considered local and uncommon to rare there (Gilligan et al. 1994; *Oregon Birds* 27:91). Similarly, it is now considered rare to uncommon in Washington (Wahl and Paulson 1991). Hoffmann (1927) considered it fairly common in Oregon and Washington. There are no recent records from Baja California and, based on their experience in the region, Patten et al. (in press) suggested that the winter range may have retracted northward.

In the latter half of the 20th Century the vesper sparrow (subspecies not specified) was generally considered rare to uncommon on the wintering grounds in California (e.g., Pyle and Small 1961, McCaskie and De Benedictis 1966, McCaskie et al. 1979, Garrett and Dunn 1981). Occasional birds are found in winter throughout the lowlands of western California (especially in the foothills surrounding the Sacramento Valley), but regular wintering areas extend from the Sutter Buttes, Sutter County (Manolis and Webb 1977) southward, primarily through the low foothills

surrounding (especially east of) the San Joaquin Valley (Leeman and Edson 2002), to the foothills and valleys of southwestern California. Leeman and Edson (2002) summarized 15 years of data from 15 Christmas Bird Counts in and adjacent to the Central Valley and found high counts in excess of 32 vesper sparrows at only three locations: Folsom (to 115), Lost Lake-Fresno (to 80), and the Carrizo Plain (to 59). They also reported an exceptional concentration of 600+ birds in Yokohl Valley, Tulare Co., 2 January 1997. Over 200 were reported at Sutter Buttes 22 February 1975 (*North American Birds* files). Additional quantitative information was provided for southeastern Monterey County ("sometimes found in flocks of 20-40;" Roberson 1985), the Cuyama Valley, Santa Barbara County ("maximum count…30…more typical counts…5-10;" Lehman 1994), Orange County ("fewer than ten are now typically observed county-wide during fall and winter;" Hamilton and Willick 1996), and San Diego County ("normally seen singly or in twos;" Unitt 1984). Extensive data from the just completed San Diego Atlas Project gives a much more complete picture of the vesper sparrow's status there. Of the 477 squares that the county was divided into, maximum daily counts of vesper sparrows were 1-5 in 47 squares, 6-20 in 44 squares, and 21-79 in 9 squares. According to Philip Unitt (in litt.) "The species' distribution correlates very nicely with the larger grasslands. San Felipe Valley is clearly the center for them in San Diego County, with all our records of over 50 in a day from there. Camp Pendleton, the Lake Henshaw region, the Ramona grasslands, Rancho Jamul, Proctor Valley, and Marron Valley, among others, all show up clearly."

Ecological Requirements

The vesper sparrow is an obligate grassland species (Vickery et al. 1999) that feeds on both invertebrates and seeds. Beetles, caterpillars, grasshoppers, moths, other insects, and spiders are consumed, along with the seeds of grasses and forbs; waste grain in agricultural areas is also taken (Zeiner et at. 1990, Csuti et al. 1997). Forages on the ground and in vegetation.

Breeding. Birds in southern coastal Oregon inhabit grassy fields, agricultural land, and some grassy dune areas (Gilligan et al. 1994; A. D. Barron pers. comm.). Although breeding territories of other subspecies are only about 1-3 acres (Zeiner et al. 1990, Csuti et al.), in Maine eastern vesper sparrows were found to be clearly sensitive to the amount of habitat available, with the incidence of occurrence reaching 50% at sites of about 20 ha. (Vickery et al.1994). In a related study on Great Basin vesper sparrows in Colorado, Bock et al. (1999) found that birds were significantly more abundant on plots at least 200 m removed from suburban development than those within 200 m.
Winter. Grinnell and Miller (1944) characterized the habitat of Oregon vesper sparrows wintering in California as "Open ground with little vegetation or else areas grown to short grass and low annuals. Bushes and taller grass may be used as retreats or for shelter. Often seen in stubble fields and meadows and along road edges where they forage in a skulking manner." Grinnell (1898) and Willett (1933) found this subspecies wintering in the company of Great Basin vesper sparrows but the former were more numerous on "damp meadows of the lowlands" while the latter were more typical of "stubble fields, washes, and especially dry mesas." Wintering vesper sparrows in the Cuyama Valley occur in semidesert scrub as well as grasslands, weedy agricultural fields, and alfalfa (Lehman 1994). Garrett and Dunn (1981) reported that wintering vesper sparrows often occur in areas with sandy substrates.

Threats

Breeding: The small breeding population appears to be fairly stable, but dynamics of the population and the habitat it depends upon are largely unknown. The invasive European beachgrass (*Ammophila arenaria*) is used for cover, but an abundance of it may exclude the vesper sparrow (A. D. Barron pers. comm.). The severity of this potential problem is not known.

Decades-old plans for residential/recreation development of the Pacific Shores subdivision remain in place. The subdivision covers the core of the breeding range north of the mouth of Lake Talawa and the negative impacts of extensive development could be enormous for this species.

Conditions north of the California border, in the heart of its breeding range, will be most important for the long-term well-being of the subspecies. There, "destruction of grasslands" was assumed to be responsible for declines noted by DeSante and George (1994). In the eastern United States, "clean farming" practices such as the removal of hedgerows and more frequent mowing have also contributed to vesper sparrow declines (Peterjohn and Sauer 1999).

Winter. The number of birds wintering in California is probably most dependent upon conditions on the breeding grounds in Oregon and Washington, where relatively open, flat ground at low elevations is highly desirable for various forms of development. This is the main threat on the wintering grounds as well. (At the extreme, witness the development of the Los Angeles Basin and San Fernando Valley.) Agricultural pressures (especially a proliferation of vineyards?) may be greatest north of the Tehachapi Mountains, while residential and commercial pressures are probably greatest to the south. It is not known if the problems associated with fragmentation on the breeding grounds (Vickery et al. 1994, Bock et al. 1999) also apply on the wintering grounds. The same is true of overgrazing problems identified by Gaines (1988) in Mono County.

Vesper sparrows generally accept eggs from the brood parasitic brown-headed cowbird (*Molothrus ater*), but parasitism levels are apparently low (Peer et al. 2000).

Management and Research Recommendations

Breeding:

- preserve all lands in California serving as breeding grounds for this species.
- the size of the breeding population should be determined through an extensive survey of all potentially suitable habitat in Del Norte County.
- determine what habitat or environmental variables (e.g., abundance of European beachgrass) may be limiting the size and success of the Del Norte County population and then manage for this species.

Winter.

- conduct a review of existing museum material–augmented by new material if necessary–to better define the winter range of the subspecies.
- compare occupied and unoccupied sites to better understand what habitat characteristics are most important for this species, and implement management plans for this subspecies where prudent.
- conduct reconnaissance surveys in an effort to discover the most important wintering sites.

Monitoring Needs

Breeding. The Del Norte County population should be surveyed every 3-5 years, preferably in May.

Winter. Once important wintering sites have been identified, surveys of those areas should be conducted every five years or so.

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